

Water Storage Tank - Maintenance and ADEM Compliance

Alabama Department of Environmental
Management - Annual Surface Water
Meeting

October 2022

R. Michael Szabo Jr.



American Tank Maintenance

Water Storage Tank - Maintenance & ADEM Compliance - Overview

- Introduction
- Tank Owner Issues and Considerations
- ADEM Compliance
- Water Storage Tank Maintenance Benefits and Program
- Questions and Discussion



Water Storage Tank Maintenance - Owner Issues

- The increased regulation and enforcement of legal, safety and environmental issues.
- Water Systems are expanding and not maintained - creating large maintenance liabilities.
- Capital is simply not available when maintenance is needed.
- Water Tank Maintenance is often postponed due to other projects (employee raises, new trucks, equipment, etc.).



Water Storage Tank Maintenance - Owner Issues

- No protection against premature coating failures and cost associated with correcting these deficiencies.
- Corrosion (metal loss), steel replacement and repairs and increased maintenance cycles.
- Emergencies, vandalism, deterioration, weather, etc...



Water Storage Tank Maintenance - Owner Considerations

- Plan and implement maintenance schedules over a ten to twelve year cycle.
- Paint exteriors every eight to ten years and interiors every ten to twelve years
- Inspect, clean and perform preventive coating maintenance for a serviceable and corrosion free tank.
- Be aware of maintenance liability and budget funds.



Water Storage Tank - Maintenance & ADEM Compliance

ADEM Regulation -

- 335-7-7-.04 Water Storage Tank Maintenance. ~~All public water systems are to have their water storage tanks inspected at regular intervals. Any deficiencies identified during an inspection should be repaired in a timely manner.~~



Water Storage Tank - Maintenance & ADEM Compliance

Applicable Tanks -

- (1) For the purposes of this rule. "water storage tank" or "storage tank" shall mean any vessel designed to store finished drinking water that is owned or operated by the public water system. This includes clearwells. hydropneumatics tanks with hatches or manholes for access to its interior. and storage tanks that are out of service but still connected to the distribution system.



Elevated Tank



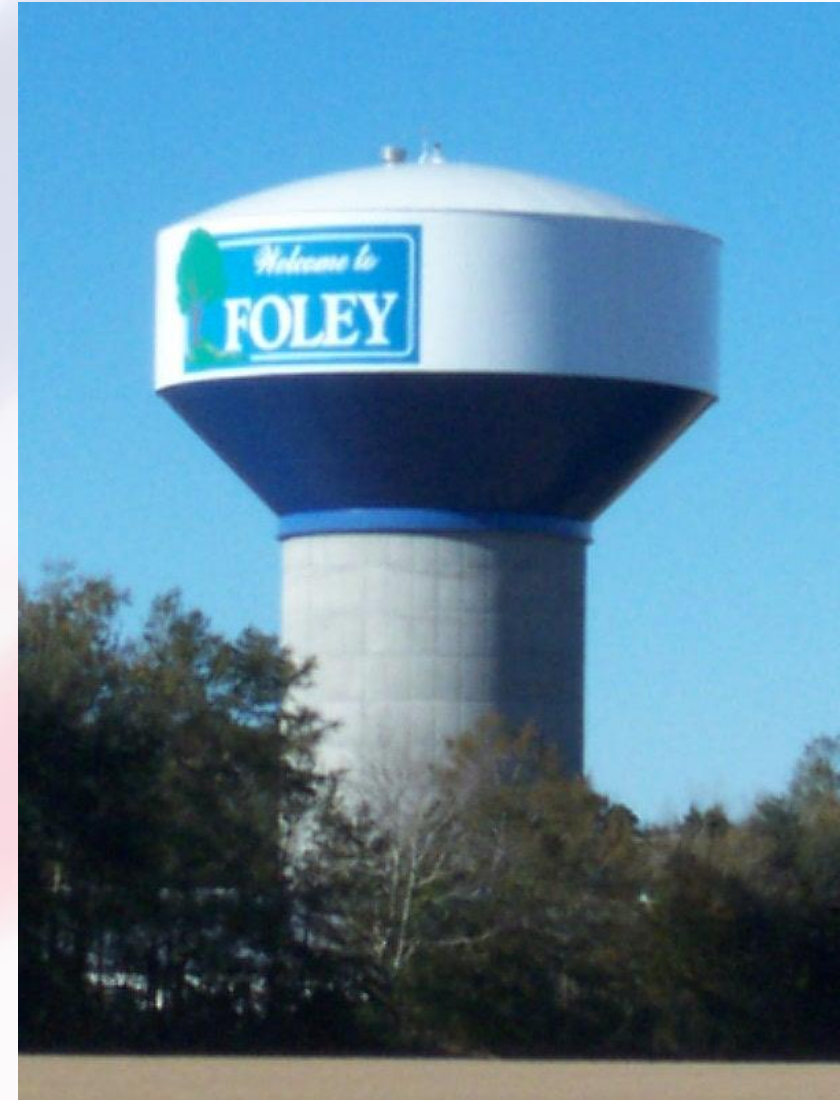
Hydropillar / Fluted Column Tank



Pedisphere Tank



Composite Elevated Tank



Standpipe Tank



Ground Storage Tank



Concrete Ground Tank



Bolted Ground Tank



Clearwells



Hydro Pneumatic / Pressure Vessel



Water Storage Tank - Maintenance & ADEM Compliance

Written Maintenance Plan -

- (2) Public water systems shall develop and implement a written maintenance plan for all water storage tanks. The plan at a minimum shall include the following:

	2018 YEAR 1	2019 YEAR 2	2020 YEAR 3	2021 YEAR 4	2022 YEAR 5	2023 YEAR 6	2024 YEAR 7	2025 YEAR 8	2026 YEAR 9	2027 YEAR 10	2028 YEAR 11	2029 YEAR 12
4TH AVENUE 250,000 GALLON ELEVATED WATER STORAGE TANK	EXTERIOR RENOVATION / WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES
	\$ 31,042	\$ 31,042	\$ 31,042	\$ 31,042	\$ 31,042	\$ 12,552	\$ 12,552	\$ 12,552	\$ 13,682	\$ 13,682	\$ 13,682	\$ 14,914
COBB STREET 300,000 GALLON ELEVATED WATER STORAGE TANK	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION / WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES
	\$ 32,702	\$ 32,702	\$ 32,702	\$ 32,702	\$ 32,702	\$ 14,940	\$ 14,940	\$ 14,940	\$ 16,284	\$ 16,284	\$ 16,284	\$ 17,750
FORREST LANE 500,000 GALLON ELEVATED WATER STORAGE TANK	EXTERIOR / INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES
	\$ 50,385	\$ 50,385	\$ 50,385	\$ 50,385	\$ 50,385	\$ 19,072	\$ 19,072	\$ 19,072	\$ 20,788	\$ 20,788	\$ 20,788	\$ 22,659
WHATLEY 100,000 GALLON GROUND WATER STORAGE TANK	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	EXTERIOR / INTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES
	\$ 12,866	\$ 12,866	\$ 12,866	\$ 12,866	\$ 12,866	\$ 6,144	\$ 6,144	\$ 6,144	\$ 6,697	\$ 6,697	\$ 6,697	\$ 7,300
TOTAL	\$ 126,995	\$ 126,995	\$ 126,995	\$ 126,995	\$ 126,995	\$ 52,708	\$ 52,708	\$ 52,708	\$ 57,452	\$ 57,452	\$ 57,452	\$ 62,623



Water Storage Tank - Maintenance & ADEM Compliance Inspection Frequency -

- (a) Schedule for the inspection/cleaning of each water storage tank. not to exceed 5-year intervals.

	YEAR 1	YEAR 2	YEAR 3	YEAR 1	YEAR 2
TOWN TANK #1 100,000 GALLON ELEVATED WATER STORAGE TANK	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES
TOWN TANK #2 150,000 GALLON ELEVATED WATER STORAGE TANK	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES

Inspection Schedule:

2020	2021	2022	2023	2024	2025	2026	2027
Visual	Visual	Interior Renovation	Visual	Washout	Visual	Washout	Visual



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Water Storage Tank - Maintenance & ADEM Compliance Protective Coatings -

- (b) The current coating type for each water storage tank, with particular emphasis placed on coatings which contain lead, coal tar, other coatings no longer NSF approved for use in a water storage tank.

Location	2465 US-78,, Moody AL 35004		
General Info	Coatings		
Capacity (gal)	500,000	Interior Coating	Epoxy
Style	Ground Storage	Interior Lead Content	None
Construction Material	Welded	Exterior Coating	Urethane
Diameter (ft)	47		

TANK DETAILS			
TANK CAPACITY:	500,000 Gallons	TANK STYLE:	Elevated Storage Tank
INSPECTION DATE:	22 April 2008	INSPECTOR:	R. Michael Szabo Jr.
CONSTRUCTION STYLE:	Welded	CONSTRUCTION DATE:	1949
BUILDER:	CBI	HEIGHT / DIAMETER:	95' HT
LADDER GATE:	Yes	SAFETY CLIMB EQUIP:	Exterior - Yes / Yes Interior - No
EXTERIOR COATING:	Acrylic Polyurethane	EXTERIOR LEAD:	Tested – Negative
INTERIOR COATING:	Epoxy	INTERIOR LEAD:	Tested – Negative



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Water Storage Tank - Maintenance & ADEM Compliance Protective Coatings -

Lab Sample ID: PQ- 7513
Sample ID: RMS0215 EXT
Description: Exterior-Column/Dome

Date Sampled: 4/22/2008
Sampler: Szabo
PO Number:

Analyte	Method	Result	Detection	Units	Analysis	Analyst
			Limit		Date	
Chromium (Cr)	EPA 6010B	ND	50	mg/kg	5/23/2008	KAC
Lead (Pb)	EPA 6010B	158	100	mg/kg	5/23/2008	KAC

Lab Sample ID: PQ- 7514
Sample ID: RMS0215 INT
Description: Interior-Shellwall

Date Sampled: 4/22/2008
Sampler: Szabo
PO Number:

Analyte	Method	Result	Detection	Units	Analysis	Analyst
			Limit		Date	
Lead (Pb)	EPA 6010B	ND	100	mg/kg	5/23/2008	KAC

* Submitted By: R. MICHAEL SZABO JR

To: Tnemec Company Inc.
101 W. 26th Avenue
North Kansas City, MO 64116
Attn: Technical Service Analytical Lab

(*) Denotes Required Information for proper identification by Analytical Lab.

1. INTERIOR Sample

Sample Location: (i.e.: Roof, Sidewall, Floor) SHELLWALL
This sample should reflect the majority of the tested area, please avoid Touch - Up areas.

Topcoat Color that needs to be identified: _____

FTIR Generic Topcoat Analysis: Epoxy

2. EXTERIOR Sample

Sample Location: (i.e.: Roof, Sidewall, Floor) COLUMN/DOME
This sample should reflect the majority of the tested area, please avoid Logo areas and/or Touch- Up areas.

Topcoat Color that needs to be identified: _____

FTIR Generic Topcoat Analysis: Acrylic polyurethane

3. ADDITIONAL Sample

Sample Location: (i.e.: Roof, Sidewall, Floor)
This could also include Interior Dry Areas, Touch-Up Areas and Logos. Please specify the location of the sample.

Topcoat Color that needs to be identified: _____

FTIR Generic Topcoat Analysis: _____



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Water Storage Tank - Maintenance & ADEM Compliance Renovation Specifications -

- (c) Separate specifications for the inside and outside coatings describing when the coating has failed and must be repaired.



Water Storage Tank - Maintenance & ADEM Compliance

- **SPECIFICATIONS**

- **INTERIOR SURFACE PREPARATION**

- All interior surfaces including the floor, roof, tank walls, ladder, venting, pipes and other component parts will be prepared as set forth in the Steel Structures Painting Council Specification Surface Preparation Number 10, SSPC-SP10 "Near White" blast cleaning. The Near-White sandblast is defined as a surface when viewed without magnification shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. At least 95% of any given surface area will have the appearance of a Near White blast and the remainder of that area is limited to slight discoloration. Staining shall be limited to no more than 5% of each square inch of surface area and may consist of light shadows, slight streaks or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied paint.

- **INTERIOR PAINTING SCHEDULE**

- Interior Surfaces - All Interior metal surfaces will be painted with an epoxy coating system that is NSF approved.
- Stripe Coat – All weld seams, nuts, bolts and sharp edges will receive a stripe coat of Epoxy applied at a rate to achieve 2.0-10.0 mils dry film thickness applied by brush and roller.
- Primer Coat - All bare metal will be painted with one full coat of Epoxy applied at a rate to achieve 4.0-10.0 mils dry film thickness.
- Finish Coat - After all interior steel has been primed, one full finish coat of Epoxy will be applied at a rate to achieve 4.0-10.0 mils dry film thickness.
- This Two coat interior system will have an average of 8.0-20.0 mils dry film thickness and the colors will be alternated between coats.



Water Storage Tank - Maintenance & ADEM Compliance

- **SPECIFICATIONS**

- EXTERIOR SURFACE PREPARATION (INITIAL RENOVATION)

- All exterior surfaces including the dome, bowl, shell walls, balcony, riser columns, ladders, venting, pipes and other appurtenances and component parts will be power washed following a chlorine treatment as set forth in the Steel Structures Painting Council Specification Surface Preparation Specification Number 1, SSPC-SP1 "Solvent Cleaning". Power washing will be a minimum of 4000 PSI (at nozzle tip) to remove contaminants such as dirt, dust, mold, mildew, chalk and other foreign contaminants. All exterior surfaces will then be prepared as set forth in the Steel Structures Painting Council Specification Surface Preparation Number 7, SSPC-SP7 "Brush-Off" blast cleaning. The Brush-Off Blast sandblast is defined as a surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, corrosion products, oxides, loose paint or other foreign matter has been removed. Tightly adherent Mill scale, rust and paint are considered tightly adhered if they cannot be removed by lifting with a dull putty knife.

- EXTERIOR PAINTING SCHEDULE

- Exterior Surfaces - All exterior painting will meet the applicable requirements of AWWA Standard D102-06.
- Prime - All exterior surfaces which have been cleaned to bare metal will be primed with one coat of Tnemec Chembuild Series 135 Modified Polyamidoamine Epoxy applied at a rate to achieve 4.0-6.0 mils dry film thickness.
- Intermediate Coat - After priming, the exterior will receive one full finish coat of Tnemec Hi-Build Tnemec Chembuild Series 135 Modified Polyamidoamine Epoxy applied at a rate to achieve 4.0-6.0 mils dry film thickness.
- Finish Coat – Following the intermediate coat, all exterior surfaces shall receive one full finish coat of Tnemec Endura-Shield UVX Series 740 Polyfunctional Aliphatic Urethane applied at a rate to achieve 2.5-5.0 mils dry film thickness.
- This two coat exterior system will have an average of 6.5-11.0 mils dry film thickness (excluding the existing coating) and the colors will be alternated between coats.



Water Storage Tank - Maintenance & ADEM Compliance Disinfection -

- (d) The method that will be used to disinfect the water storage tank after each inspection/ cleaning. The disinfection method selected shall comply with AWWA C652 {latest edition} for Disinfection of Water-Storage Facilities. After the storage tank has been properly disinfected and refilled to an acceptable disinfectant residual in accordance with ADEM Admin. Code r. 335-7-10-.04. two consecutive bacteriological samples shall be collected not less than 30 minutes apart and analyzed to be absent of total coliform before the storage tank may be returned to service



Water Storage Tank - Maintenance & ADEM Compliance Disinfection -

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Water Storage Tank - Maintenance & ADEM Compliance Disinfection -

- CHLORINATING WATER STORAGE TANK
- Upon completion of the interior tank painting as specified, the interior surfaces will be thoroughly disinfected as per AWWA Spray Method #2. The complete interior will be sprayed with a hypochlorite solution containing at least 200 PPM of chlorine prior to refilling. The Utility can then collect water samples for bacteriological analysis.



Water Storage Tank - Maintenance & ADEM Compliance Drawings and Mixers -

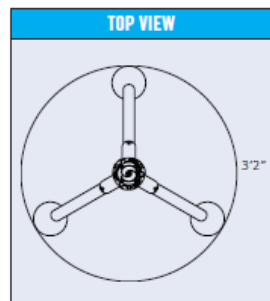
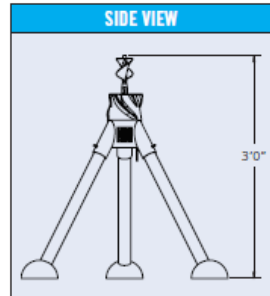
- (e) Schematics (as-built drawing if available) depicting the water storage tank's dimensions and configuration for all major components. If a mixer is present, the plan shall include the operational parameters for the mixing system if applicable.

TANK DETAILS

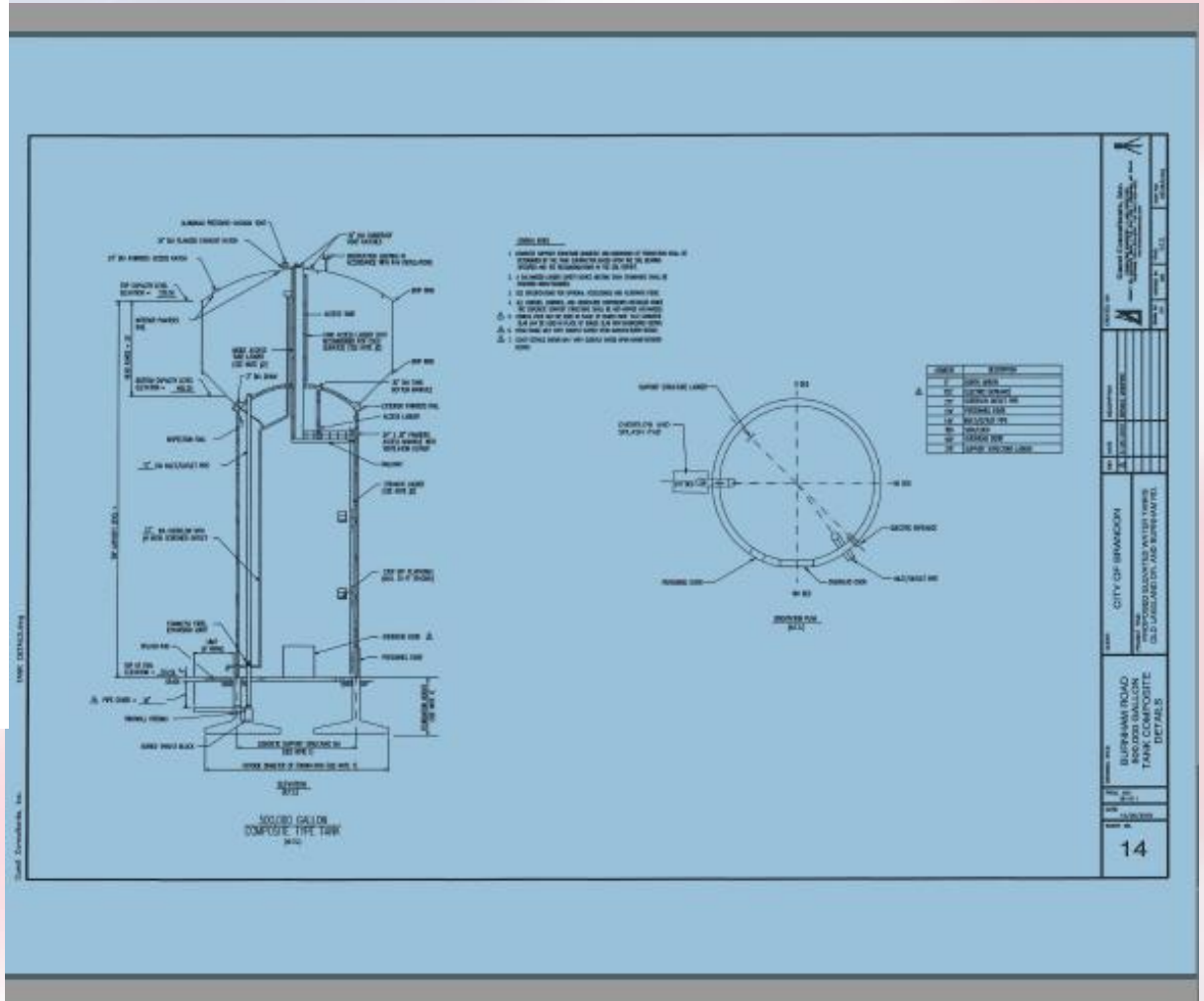
TANK CAPACITY:	500,000 Gallons	TANK STYLE:	Elevated Storage Tank
INSPECTION DATE:	22 April 2008	INSPECTOR:	R. Michael Szabo Jr.
CONSTRUCTION STYLE:	Welded	CONSTRUCTION DATE:	1949
BUILDER:	CBI	HEIGHT / DIAMETER:	95' HT
LADDER GATE:	Yes	SAFETY CLIMB EQUIP:	Exterior - Yes / Yes Interior - No
EXTERIOR COATING:	Acrylic Polyurethane	EXTERIOR LEAD:	Tested – Negative
INTERIOR COATING:	Epoxy	INTERIOR LEAD:	Tested – Negative



Water Storage Tank - Maintenance & ADEM Compliance



MIXER SPECIFICATIONS	
Power supply requirement	120 VAC, GFCI-protected, 15 Amp circuit
Customer supplied power switch	NEMA 3R, fused, safety disconnect switch
Motor Type	48VDC, Water-filled, water-lubricated, brushless motor
RPM	2100
Nominal power draw	260 Watts @ 2100 RPM
Impeller specifications	6.4" Tall x 3.0" Diameter, SS 316
Footprint diameter	3' 2" (0.97m)
Height	3' 0" (0.91m)
Weight: Mixer Assembly	52 lbs (23.6 kg)
Weight: Control Center	24 lbs (10.9 kg)
Material: Control Center	Stainless Steel NEMA 3R Enclosure
Material: Stand	316 Stainless Steel
Material: Motor Housing	316 Stainless Steel
Material: Motor Seals	Chlorine/chloramine-resistant NBR rubber
Material: Feet	Chlorine/chloramine-resistant EPDM rubber
Wiring	NSF 61 & UL-listed Submersible Pump Cable 14 AWG XLPE



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Water Storage Tank - Maintenance & ADEM Compliance Inspection / Cleaning Requirements -

- (3) Inspection/ Cleaning Requirements.
 - (a) All storage tanks constructed prior to January 1, 2022, shall have and initial inspection/ cleaning under this regulation completed by December 31, 2027.
 - (b) All storage tanks constructed on or after January 1, 2022, shall have an initial inspection/ cleaning under this regulation completed no later than five years from the date of construction.
 - (c) All storage tanks shall be inspected/cleaned at least once every five years following the date of the initial inspection/ cleaning under this regulation.



Water Storage Tank - Maintenance & ADEM Compliance

Significant Deficiencies -

- (4) No storage facility may be returned to service until all significant deficiencies have been repaired. A significant deficiency is any deficiency where there is a potential for the water to become contaminated. This includes but is not limited to the following:



Water Storage Tank - Maintenance & ADEM Compliance Significant Deficiencies -

- (a) Missing roof hatches.



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Water Storage Tank - Maintenance & ADEM Compliance

Significant Deficiencies -

- (b) Missing or incorrectly sized screens on vent pipes. The proper size screen is #20 mesh or smaller made from a non-corroding material.



Water Storage Tank - Maintenance & ADEM Compliance Significant Deficiencies -

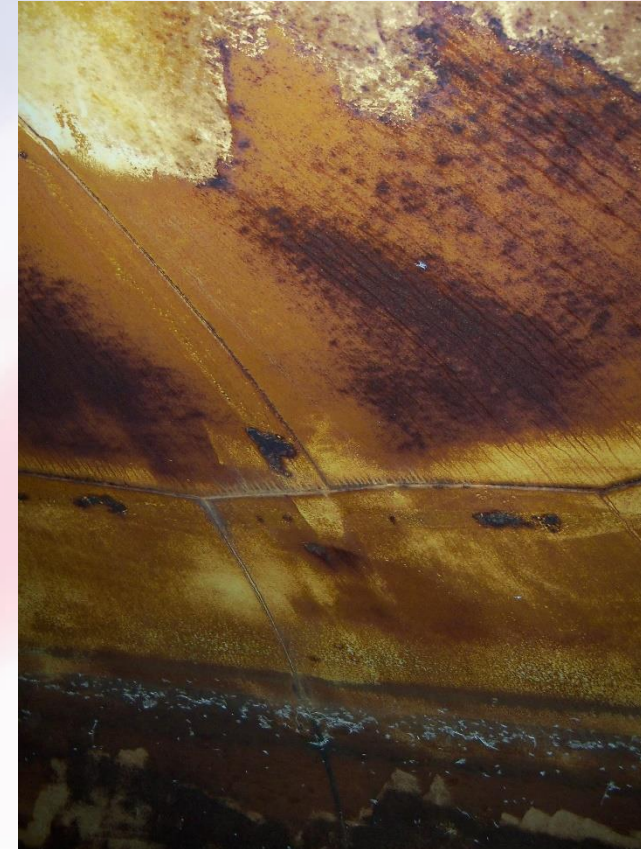
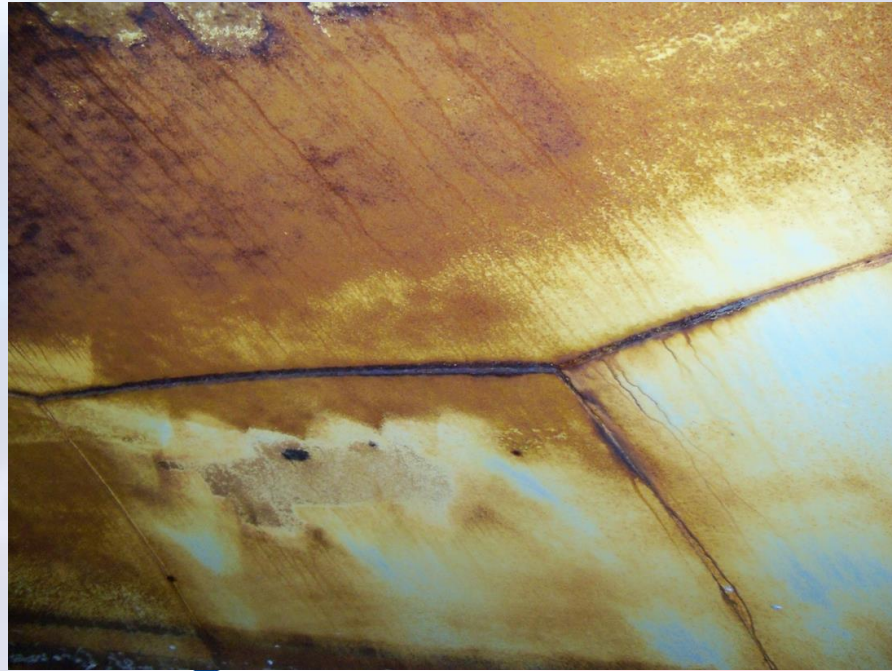
- (c) Holes in the roof or walls.



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Water Storage Tank - Maintenance & ADEM Compliance Significant Deficiencies -

- (d) Roof joints that are no longer properly sealed.



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Significant Deficiencies -

- (e) Overflow lines without proper protection which includes a screen and flap valve or another acceptable configuration (e.g., duckbill valve).



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Water Storage Tank - Maintenance & ADEM Compliance

Significant Deficiencies -

- (e) Overflow lines without proper protection which includes a screen and flap valve or another acceptable configuration (e.g., duckbill valve).



Water Storage Tank - Maintenance & ADEM Compliance

Significant Deficiencies -

- (f) Improper air gap for an overflow line.



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Significant Deficiencies -

- (g) Connection to a sanitary sewer system.



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Significant Deficiencies -

- (h) Missing or cracked rubber gaskets (if required) around hatches.



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Water Storage Tank - Maintenance & ADEM Compliance Deficiency Reporting -

- (5) If any tank has a significant deficiency identified, a summary report shall be written and submitted to the Department within 14 days of the inspection. This report should also include the corrective action and the timeframe for repair.



Water Storage Tank - Maintenance & ADEM Compliance Inspection Report -

- (6) A final inspection report shall be written separate from a summary report and shall be maintained on file at the water system for public review and review during inspections. The report shall be maintained for a minimum of 10 years.



Woodland Water Board Maintenance Program Summary

INTRODUCTION


American Tank Maintenance (ATM) specializes in water storage tank professional services, asset management, and long-term preventative maintenance programs. A maintenance program includes annual inspections, internal washout inspections, emergency services and repairs. This type of program provides all short and long-term maintenance and safety of the responsibility, liability, and risk associated with the asset from the owner to American Tank Maintenance. An ATM Maintenance Program meets and exceeds the requirements of the new 40CFR regulations and has for our 1000+ Water Storage Tank Maintenance Customers in Alabama and 550 in the Southeast.

All work to be completed inside of a potable water storage tank is concluded with a disinfection process in accordance with AWWA Spray Method #2. Tank owner is responsible for the subsequent satisfactory bacteriological tests. Interior & exterior renovations are determined based on inspection results. All screens shall be constructed of 24-inch non-corrosible steel.

TOWN TANK #1							
Location		Woodland Drive, Woodland AL					
Capacity (gall)	100,000	Capacity	100,000	Capacity	100,000	Capacity	100,000
Construction Material	Welded	Interior Coating	Interior Lead Content	Exterior Coating	Exterior Lead Content	Exterior Coating	Exterior Lead Content
Water Height (ft)	100	Water Height (ft)	100	Water Height (ft)	100	Water Height (ft)	100
Overflow Height (ft)	100	Overflow Height (ft)	100	Overflow Height (ft)	100	Overflow Height (ft)	100
Overflow Location	Ground	Overflow Location	Ground	Overflow Location	Ground	Overflow Location	Ground
Overflow Termination Point	Ground	Overflow Termination Point	Ground	Overflow Termination Point	Ground	Overflow Termination Point	Ground
Overflow Frequency	Yes	Overflow Frequency	Yes	Overflow Frequency	Yes	Overflow Frequency	Yes
Overflow Screen	Yes	Overflow Screen	Yes	Overflow Screen	Yes	Overflow Screen	Yes
Vent Size (in)	24	Vent Size (in)	24	Vent Size (in)	24	Vent Size (in)	24
Vent Screen	Yes	Vent Screen	Yes	Vent Screen	Yes	Vent Screen	Yes

Inspection Schedule:

2020	2021	2022	2023	2024	2025	2026	2027
Washout	Visual	Washout	Visual	Washout	Visual	Washout	Visual



Woodland Water Board Washout Inspection Report July 15, 2022 100,000-Gallon Town Tank #1

Prepared For:
Angie Caldwell
Mike Copeland

Prepared By:
Chris Palmer

Date:
July 19, 2022

General Information

INTRODUCTION

On July 15, 2022 American Tank Maintenance (ATM) performed a washout inspection of the 100,000-gallon elevated Town Tank #1 owned by the Woodland Water Board. This washout inspection was performed in accordance with the provisions of ATM's Full-Service Maintenance Program with the Woodland Water Board.

100,000-GALLON ELEVATED – TOWN TANK #1

Date Inspected	July 15, 2022
Inspector	Brandon Henry
Capacity	100,000 Gallons
Style	Elevated
Construction Material	Welded
Height	130' HWL

EXTERIOR COATINGS

The exterior surfaces are coated with an acrylic polyurethane coating system and are in good condition. The adhesion and millage were good on all areas tested.

INTERIOR COATINGS

The interior surfaces are coated with an epoxy coating system and are in good condition. Minor areas of corrosion were touched up during the inspection. Light sediment was found and cleaned during the inspection. This tank was disinfected in accordance with AWWA Spray Method #2.

SAFETY

There is a cable safety climb system installed on the access ladder. There is a cable safety climb system installed on the dome ladder. The catwalk and handrails are in good condition. The roof hatch is within a reachable distance from the ladder.

SANITARY

The roof hatch is an overlapping cover design and is closed and locked. The roof vent is in good condition. The vent screen is 24-inch and in good condition. The overflow pipe terminates at ground

Water Storage Tank - Maintenance & ADEM Compliance Inspection Report -

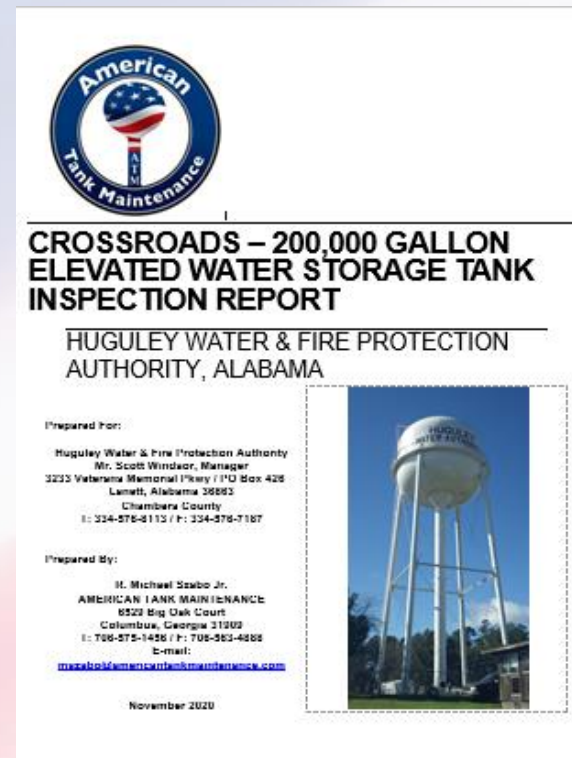
- (7) The final report shall include a description of any objects or contaminants found in the water storage tank and the most likely



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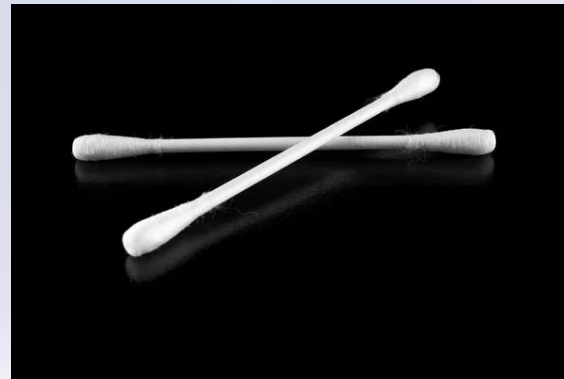
Water Storage Tank - Maintenance & ADEM Compliance Inspection Report -

- (8) The final report shall be detailed, including pictures and/or videos, describing all conditions discovered during the inspection, not just a list of deficiencies.



Water Storage Tank - Maintenance & ADEM Compliance Inspection Report Certification -

- (9) All inspection and summary reports shall be signed by a qualified tank inspection professional. This individual shall possess experience inspecting storage tanks of similar design and size. according to generally recognized standards of the water utility industry.




**GOLDSBY ROAD TANK #1 – 2,500,000
GALLON GROUND CONCRETE
WATER STORAGE TANK
INSPECTION REPORT**

**SOUTH WALTON UTILITY COMPANY INC.,
MIRAMAR BEACH, FLORIDA**

Prepared For:
South Walton Utility Company Inc.
Joe Ream, Water Production Manager
359 Miramar Beach Drive
Miramar Beach, Florida 32550
T: 850-837-2988 / F: 850-837-7648

Prepared By:
R. Michael Szabo Jr.
American Tank Maintenance
6529 Big Oak Court
Columbus, Georgia 31909
T: 706-575-1456 / F: 706-563-4888
E-mail:
mszabo@americantankmaintenance.com



MAY 2019



Water Storage Tank - Maintenance & ADEM Compliance

Maintenance Plan Summary -

- Written Maintenance Plan
- Inspections
- Exterior and Interior Coating Types and Composition
- Exterior and Interior Renovation Specification Options
- Disinfection Methods
- Drawings, Schematic and Mixing Systems
- Deficiency Reporting
- Inspection Reports
- Inspection Report Certification





Water Storage Tank Maintenance - Program Benefits

- A full-service professional maintenance program - management, planning, scheduling, execution, quality control, customer service and safety.
- Guaranteed protection of your water storage tank with an exact plan of preventive maintenance which assumes all responsibility and liability for the tank from the contract signing date.
- All costs associated with interior and exterior preventive maintenance - inspection, cleaning, painting, repairs and reports.
- All costs associated with maintenance scheduling, engineering and quality control inspections of major renovation projects.



Water Storage Tank Maintenance - Program Benefits

- All cost associated with premature coating failures.
- All costs to ensure the tank is serviceable, water tight, structurally sound and corrosion free resulting in extended tank life.
- Emergency repair service at no additional cost (floats, venting, graffiti, gunshots, etc.).
- All costs associated with logo and artwork.
- Adherence to all industry applicable rules, regulations, guidelines and standards as established by the; ADEM, AWWA, NRWA, SSPC, NACE, NSF, OSHA and EPA.



Water Storage Tank Maintenance - Program Parameters

- A Full-Service Maintenance Program covers all aspects of the tank:
 - Administration
 - Scheduling
 - Compliance
 - Engineering
- Inspection Renovation and Repair
 - Safety
 - Sanitary Conditions
 - Structural Integrity
 - Coatings
 - Security



Water Storage Tank Maintenance - Summary of Coverage

- Comprehensive tank maintenance from the contract origination date.
- Tank short and long-term maintenance.
- Tank serviceability.
- An annual visual inspection of the tank with report and photographs documenting the current condition.



Water Storage Tank Maintenance - Summary of Coverage – cont.

- A biennial washout, disinfection and inspection of the tank with report and photographs documenting the current condition.
- Tank exterior cleaning, painting, protective coating maintenance and repairs necessary to keep the tank serviceable, corrosion free and looking nice.
- Tank interior cleaning, painting, protective coating maintenance, disinfection and necessary repairs to assure that the tank is serviceable, sound, corrosion free and watertight.



American Tank Maintenance - Summary of Coverage – cont.


- Emergency service needed under the terms of the contract.
- Coverage for any acts of vandalism to the tank. Furnish and install a lockable ladder gate climb prevention shield anti-climb deterrent and tank access locks to minimize the opportunity for vandalism and reduce tank owner liability (fencing, securable access hatches, removable lower ladder portion are also recommended).
- Coverage for normal deterioration, future repairs, steel replacement, steel parts, expansion joints, water level indicators, sway rods, manhole covers and gaskets, and all other tank and tower components.



American Tank Maintenance - Summary of Coverage – cont.

- Maintenance of the tank's logo, lettering and artwork.
- Water Storage Tank information, documentation and data management.



	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12
4TH AVENUE 250,000 GALLON ELEVATED WATER STORAGE TANK	EXTERIOR RENOVATION / WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES
	\$ 31,042	\$ 31,042	\$ 31,042	\$ 31,042	\$ 31,042	\$ 12,552	\$ 12,552	\$ 12,552	\$ 13,682	\$ 13,682	\$ 13,682	\$ 14,914
COBB STREET 300,000 GALLON ELEVATED WATER STORAGE TANK	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION / WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES
	\$ 32,702	\$ 32,702	\$ 32,702	\$ 32,702	\$ 32,702	\$ 14,940	\$ 14,940	\$ 14,940	\$ 16,284	\$ 16,284	\$ 16,284	\$ 17,750
FORREST LANE 500,000 GALLON ELEVATED WATER STORAGE TANK	EXTERIOR / INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES
	\$ 50,385	\$ 50,385	\$ 50,385	\$ 50,385	\$ 50,385	\$ 19,072	\$ 19,072	\$ 19,072	\$ 20,788	\$ 20,788	\$ 20,788	\$ 22,659
WHATLEY 100,000 GALLON GROUND WATER STORAGE TANK	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	EXTERIOR / INTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES
	\$ 12,866	\$ 12,866	\$ 12,866	\$ 12,866	\$ 12,866	\$ 6,144	\$ 6,144	\$ 6,144	\$ 6,697	\$ 6,697	\$ 6,697	\$ 7,300
TOTAL	\$ 126,995	\$ 126,995	\$ 126,995	\$ 126,995	\$ 126,995	\$ 52,708	\$ 52,708	\$ 52,708	\$ 57,452	\$ 57,452	\$ 57,452	\$ 62,623
SEMI-ANNUALLY	\$ 63,497	\$ 63,497	\$ 63,497	\$ 63,497	\$ 63,497	\$ 26,354	\$ 26,354	\$ 26,354	\$ 28,726	\$ 28,726	\$ 28,726	\$ 31,312
QUARTERLY	\$ 31,749	\$ 31,749	\$ 31,749	\$ 31,749	\$ 31,749	\$ 13,177	\$ 13,177	\$ 13,177	\$ 14,363	\$ 14,363	\$ 14,363	\$ 15,656
MONTHLY	\$ 10,583	\$ 10,583	\$ 10,583	\$ 10,583	\$ 10,583	\$ 4,392	\$ 4,392	\$ 4,392	\$ 4,788	\$ 4,788	\$ 4,788	\$ 5,219



	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12
TANK #1 200,000 GALLON ELEVATED WATER STORAGE TANK	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES
	\$ 10,117	\$ 10,117	\$ 10,117	\$ 11,028	\$ 11,028	\$ 11,028	\$ 12,020	\$ 12,020	\$ 12,020	\$ 13,102	\$ 13,102	\$ 13,102
TANK #2 200,000 GALLON ELEVATED WATER STORAGE TANK	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES
	\$ 9,675	\$ 9,675	\$ 9,675	\$ 10,546	\$ 10,546	\$ 10,546	\$ 11,495	\$ 11,495	\$ 11,495	\$ 12,529	\$ 12,529	\$ 12,529
TANK #3 500,000 GALLON ELEVATED WATER STORAGE TANK	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	INTERIOR RENOVATION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES
	\$ 15,633	\$ 15,633	\$ 15,633	\$ 17,040	\$ 17,040	\$ 17,040	\$ 18,574	\$ 18,574	\$ 18,574	\$ 20,245	\$ 20,245	\$ 20,245
TANK #4 1,000,000 GALLON GROUND WATER STORAGE TANK	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	EXTERIOR RENOVATION / WASHOUT INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES	WASHOUT / INSPECTION & EMERGENCY SERVICES	VISUAL INSPECTION & EMERGENCY SERVICES
	\$ 8,878	\$ 8,878	\$ 8,878	\$ 9,677	\$ 9,677	\$ 9,677	\$ 10,548	\$ 10,548	\$ 10,548	\$ 11,497	\$ 11,497	\$ 11,497
TOTAL	\$ 44,303	\$ 44,303	\$ 44,303	\$ 48,290	\$ 48,290	\$ 48,290	\$ 52,636	\$ 52,636	\$ 52,636	\$ 57,374	\$ 57,374	\$ 57,374
SEMI-ANNUALLY	\$ 22,152	\$ 22,152	\$ 22,152	\$ 24,145	\$ 24,145	\$ 24,145	\$ 26,318	\$ 26,318	\$ 26,318	\$ 28,687	\$ 28,687	\$ 28,687
QUARTERLY	\$ 11,076	\$ 11,076	\$ 11,076	\$ 12,073	\$ 12,073	\$ 12,073	\$ 13,159	\$ 13,159	\$ 13,159	\$ 14,343	\$ 14,343	\$ 14,343
MONTHLY	\$ 3,692	\$ 3,692	\$ 3,692	\$ 4,024	\$ 4,024	\$ 4,024	\$ 4,386	\$ 4,386	\$ 4,386	\$ 4,781	\$ 4,781	\$ 4,781

Water Storage Tank Maintenance - Maintenance Program Benefits

- Assumes all RISK and LIABILITY for Maintenance
- Save \$\$\$ long term on all tanks and get more work
- Annual inspections (Washout/Visuals) with reports
- Emergency Services/Repairs
- Future Exterior and Interior Renovations
- Lifetime warranty on the paint coatings
- Set annual budget figure
- NO CHANGE ORDERS
- Hassle free tank maintenance
- Personalized Service - Annual Review of your account



Questions?

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